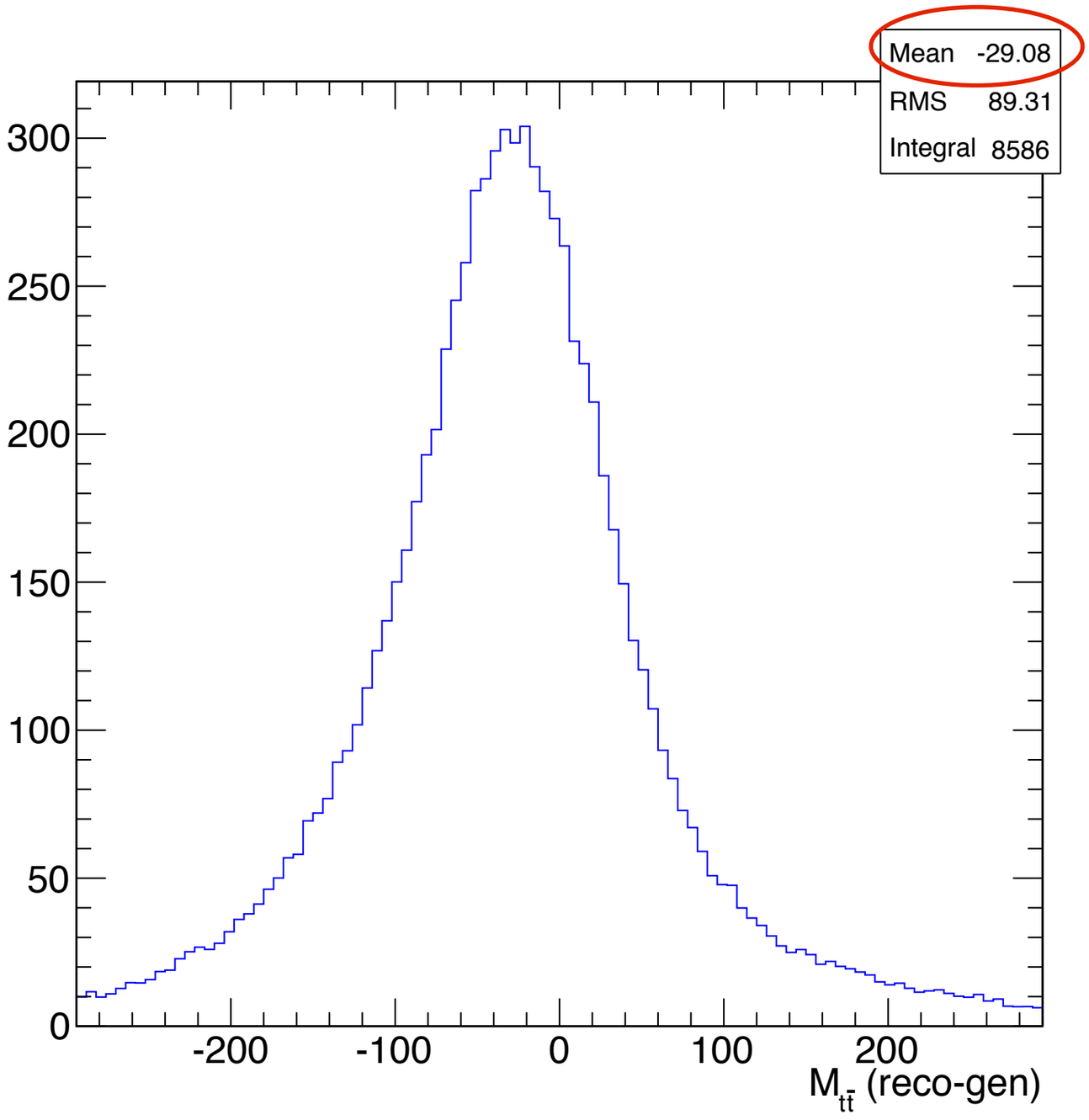
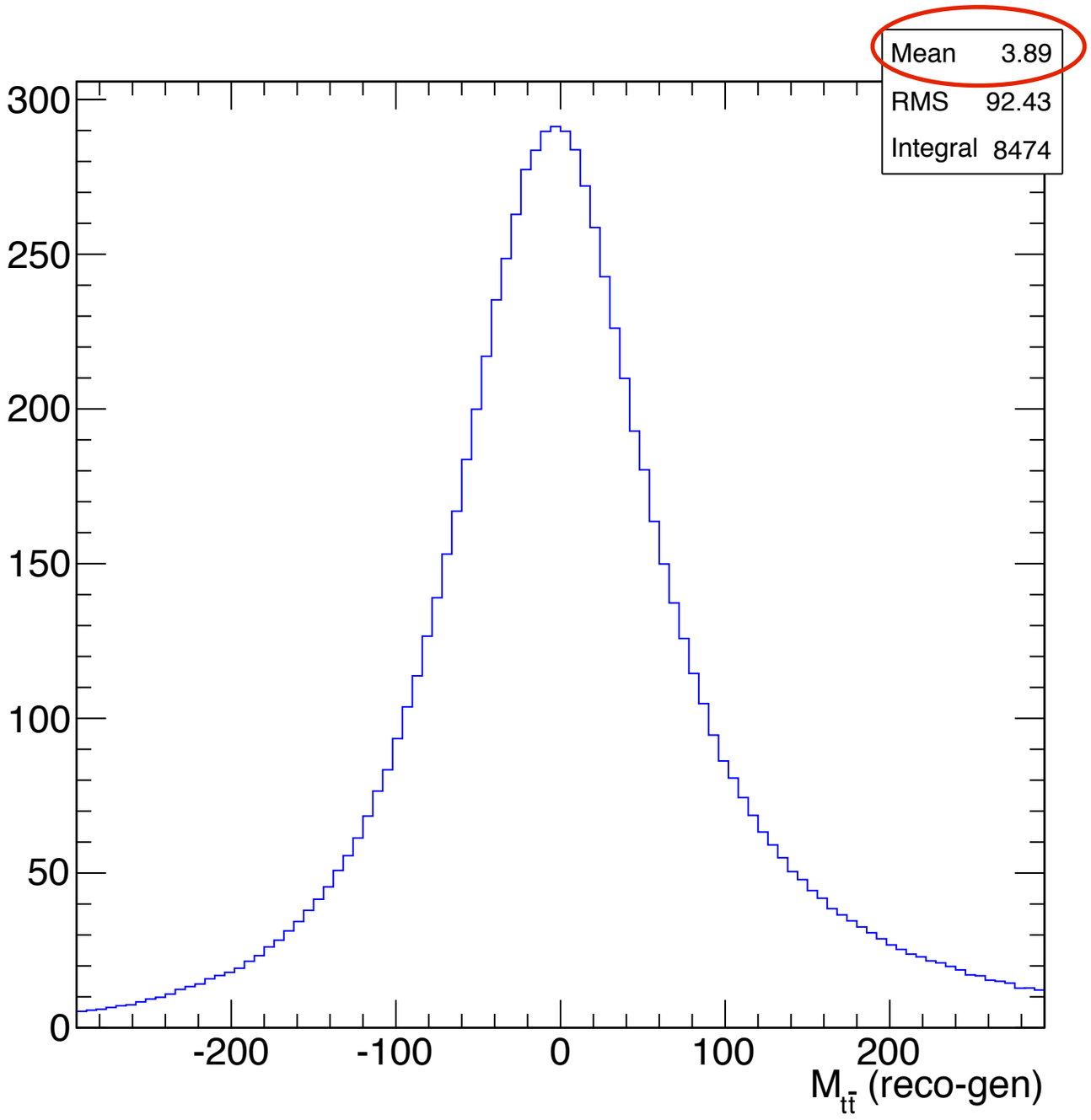
AMWT changes

11/04/2013

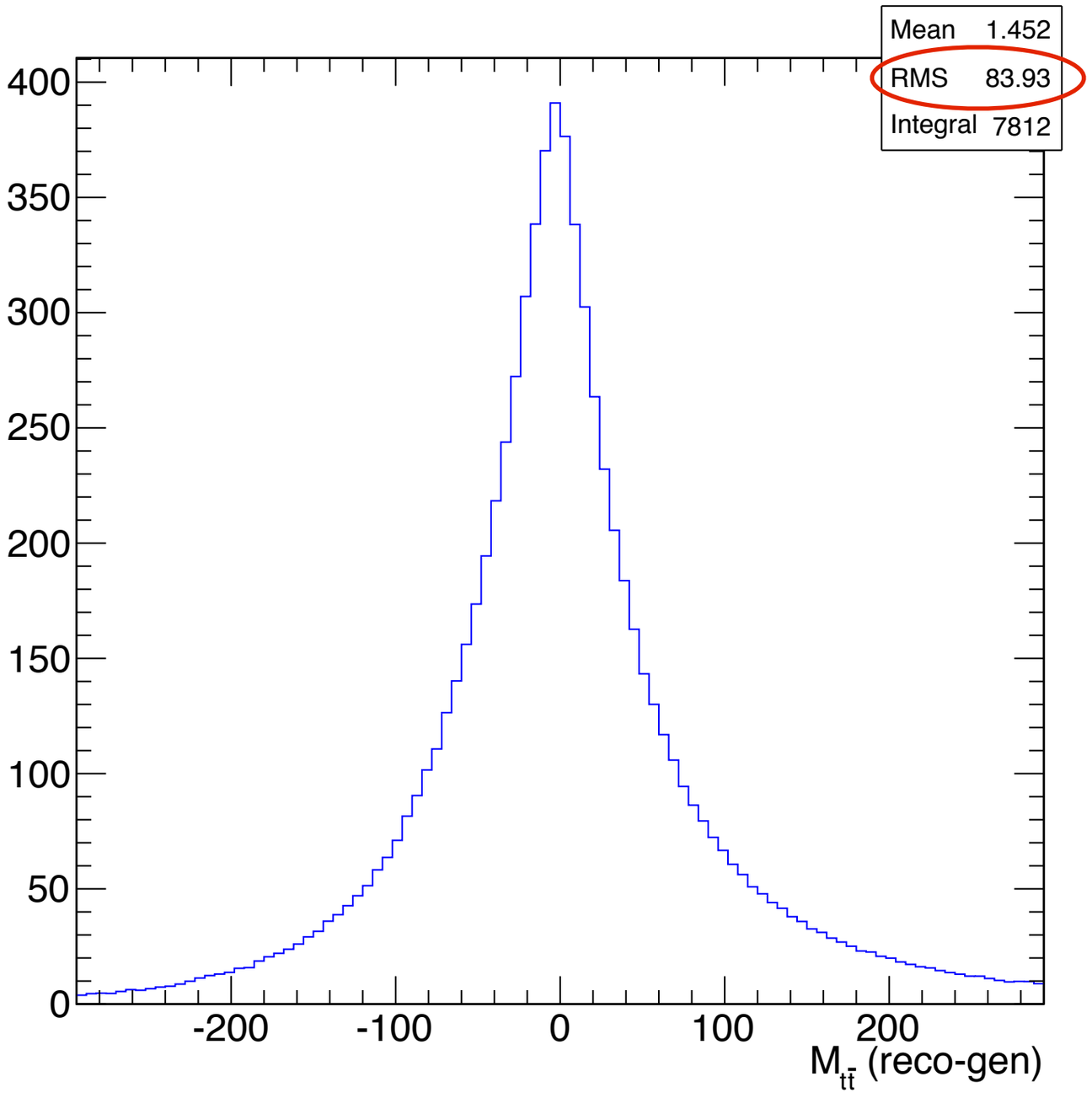
starting point: with jet smearing bias (using single iteration with max weight), and scanning M_t from 100 to 300 GeV



Now fix jet smearing bias by using solutions from all iterations



- now fix top mass to 172.5 GeV
- more accurate reconstruction of ttbar system
  - now we always get M_{top} right
- also see corresponding reduction in uncertainty on unfolded results (~10%)



other advantages of making these changes

- ICHEP polarisation result nearly didn't get approved due to mass scan range systematic
  - the ARC made us reduce the scan range as a condition of approval
    - The only major change since then is to add jet smearing
      - actually makes things worse, need additional #iterations systematic - ARC unlikely to approve?
    - Removing jet smearing bias and keeping the top mass constant addresses both these issues
    - Changes are now fully implemented in our analysis

- Question for Felix:
  - Were you able to find out the cross-sections of the fastsim samples?
    - My results suggest they do not all have the same cross-section
    - Maybe we should ignore this and just normalise total yields to the fullsim?
- If possible, the values needed are analagous to the PREP cross-section of 147.4 used for the fullsim:
  - http://cms.cern.ch/iCMS/jsp/mcprod/admin/requestmanagement.jsp?dsn=TT_TuneZ2_7TeV-mcatnlo